

Studio 96



PROFESSIONAL TAPE TRANSPORT

NOW ALSO AVAILABLE WITH SOLID-STATE

MONAURAL OR STEREO ELECTRONICS

The Studio 96 is a heavy duty tape transport for broadcasting, commercial and other critical recording applications - reasonably priced to accommodate budget limitations. Excellent tape handling and exceptionally good flutter and wow characteristics won acclaim for the Studio 96 in every field. Head configurations in full, half or quarter track make the Studio 96 adaptable for most professional applications. Other features include 10 1/2" reel capacity, automatic sequence function, dynamic braking, two speed hysteresis synchronous capstan motor and heavy duty reel drive motors, remote control receptacle and EIA rack panel. Separate, solid state record and playback amplifiers, monaural model RP110-R2 and stereo RP120-R2 are matched to the Studio 96.



Viking OF MINNEAPOLIS®
9600 Aldrich Ave. S. Minneapolis, Minnesota, 55420

STUDIO 96 DESIGN FEATURES

CONTROLS: Four telephone-type lever or "key" switches; "Reel Size Selector," "Speed Selector," "Play-Cue" and "Fast Forward-Stop-Rewind".

AUTOMATIC SEQUENCE FUNCTIONS: Time delay circuits provide complete interlock protection for foolproof operation. For example, the "Play" switch may be engaged while the unit is in "Rewind." After stopping Rewind the control system will automatically follow through; the unit will come to a dead stop before going into "Play" without damage to the tape.

CUING: With the selector switch set to "Cue" all brakes are released allowing manual rotation of the reels for cuing or editing purposes. Tape lifters retract for perfect tape-to-head contact.

PLUG-IN CONTROL BOX: All control relays are contained in a "plug-in" control box which can be quickly exchanged. A spare control box eliminates the need for a stand-by transport.

REMOTE CONTROL: Every Studio 96 is equipped with a receptacle to remote control "Play-Stop" and "Fast Forward-Stop-Rewind." This can be accomplished with simple, external switching. A second receptacle permits electrical interlocking with external electronics.

DRIVE SYSTEM: The excellent drive mechanism of every Studio 96 uses three motors with adjustable power control circuits for each particular function.

CAPSTAN: A two-speed, hysteresis synchronous motor drives the 3½ pound dynamically balanced capstan flywheel with flutter absorbing belts.

TAKEUP AND REWIND: Six pole, induction motors drive the takeup and supply reels. A special circuit provides unusually smooth tape starting by momentarily applying over two times the torque required for normal running.

BRAKES: Maintenance free, dynamic braking with automatic differential and directional memory, provides exceptionally smooth tape handling. The front panel "Reel-Size" switch selects proper tape tension and the dynamic braking differential for the 3 reel sizes. These highly efficient brakes require less than 2 seconds from "Fast Forward" to "Stop," or "Rewind" to "Stop."

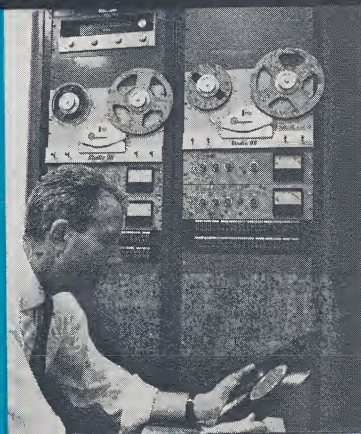
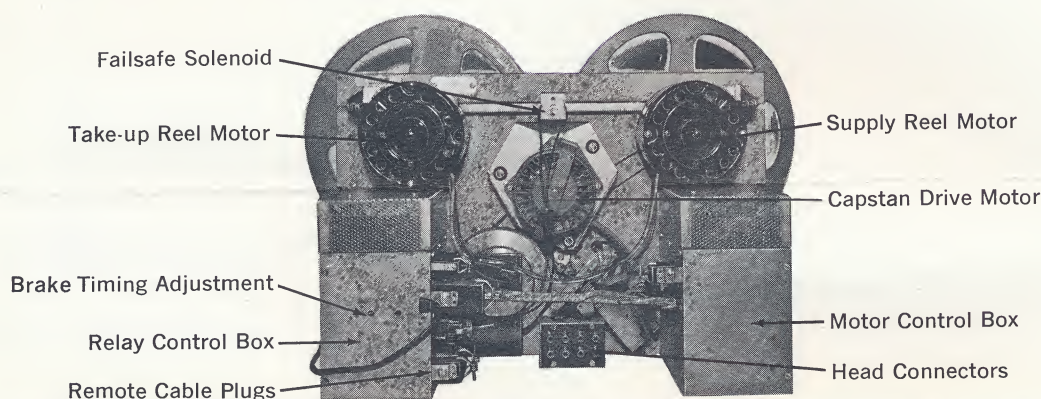
FAIL SAFE: A solenoid controlled, mechanical brake stops the transport in the event of power failure.

REEL MOUNTINGS: Universal NAB hubs accept 10½ inch reels and retract to mount standard 7 and 5 inch reels. Precision machined aluminum reel retainers are included.

TAPE SPEEDS: Select either of two adjacent speeds electrically: 15 and 7-1/2, 7-1/2 and 3-3/4 or 3-3/4 and 1-7/8 ips, depending upon the drive pulley provided. Drive pulleys are interchangeable and may be purchased and installed as required. 15 ips is not recommended for 50 cycle operation.

POWER REQUIREMENTS: The standard Studio 96 is designed for 117 volt 60 cycle operation. Studio 96 is also available for either, 117 volt 50 cycle or 230 volt 50 cycle operation with proper capstan motor pulley and capacitors. Due to lower motor speed at 50 cycles, 15 ips tape speed is not recommended. For 50 cycle operation additional cooling fan is required — not supplied by Viking. Studio 96 for 230 volt 50 cycle operation comes with self-contained step-down transformer at extra cost.

TAPE BREAK AND FAIL SAFE SWITCH: A photo-electric fail safe device automatically stops the transport in the event that tape breaks or runs out. Transparent or semi-transparent tape sections can be used between selections for fast cuing. Jump programming and automatic cuing are also possible with minor control modifications.



WTFM — New York, after two years of direct broadcasting from New York World Fair Grounds — Viking Studio 96 transports are now installed permanently in mid Manhattan WTFM studio.

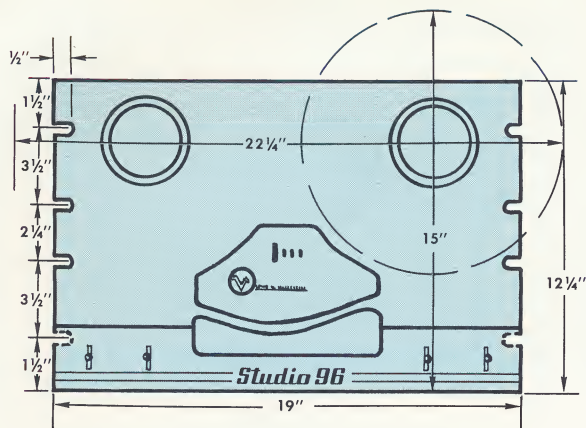
AUDIO

equipment profile
November 1965

From Report on Studio 9
and RP 120 Amplifier . .

Complete reprint available on
request from Viking.

INSTALLATION DIMENSIONS



PORTABLE CASE

Where portability is desired the Studio 96 and either a monaural RP110-R2 or stereo RP120-R2 amplifier is installed in a wood case covered in attractive black vinyl. The case comes with detachable covers at front and back for convenient accessibility to operating controls and input or output connections. Screened filler panels provide ample ventilation for the installed equipment. **Dimensions with covers:** 20" wide, 20" high, 12 1/2" deep. **Weight of case only:** 20 1/2 lbs. **With equipment:** 88 lbs. maximum.

The Studio 96 is designed for standard EIA relay rack mounting in vertical or horizontal position.

Dimensions: 19" x 12 1/4" clearance. With 10 1/2" reels in place, 22 1/4" x 15" clearance.

Front: 2" clearance. **Behind panel:** 7" clearance.

Access must be provided for connection to head jacks, AC, and remote control connectors located behind the panel. In recording applications the amplifiers should be located below the transport. The cable length from the head jacks on the back of the transport to the amplifiers should not be more than two feet.

For portability order case model # 100.



STUDIO 96 SPECIFICATIONS

SIGNAL-TO-NOISE RATIO: 55 db below peak recording level at 7.5 ips.

FLUTTER AND WOW: Less than 0.1% RMS at 15 ips, 0.1% at 7.5 ips.

LONG TERM SPEED REGULATION: 0.5%

CAPSTAN DRIVE: Flutter-filter, multiple-belt drive.

CAPSTAN FLYWHEEL: Three and one-half pound, dynamically balanced.

TAPE SPEED: 15 - 7-1/2, 7-1/2 - 3-3/4, 3-3/4 - 1-7/8 ips. (15 ips not recommended for 50 cycle operation - see "Power Requirements" under Design Features).

REEL SIZE: 10-1/2 inches and all smaller.

CAPSTAN DRIVE MOTOR: Hysteresis synchronous.

CAPSTAN BEARINGS: Self-lubricating, no lubrication required.

MOTORS, REWIND AND FAST FORWARD: 6-pole.

POWER REQUIREMENTS: 117 volt 60 cycle, 150 watts nominal. 117 volt 50 cycle or 230 volt 50 cycle optional (see "Options" and "Power Requirements" under Design Features).

FAST FORWARD OR REWIND TIME: 2400 foot reel, 70 seconds.

COUNTER: Three digit, resettable.

BRAKES: Direct-current dynamic, plus solenoid-operated fail safe mechanical brake.

CONTROLS: Interlocked relay and solenoid. Lever switch operated.

PANEL FINISH: Hammertone grey.

WEIGHT: 50 pounds (shipping weight 56 pounds).

... the transport/preamplifier performed as easily and as surely as the most fussy user could require ... What the specifications fail to tell, and our physical examination did, is that these units are built to last ... These Viking units show every evidence to the effect that down time will be a rarity. Further, the units are readily serviceable. Add, to this the fact that our ears fully agree with that which our instruments have found. The net result is a pair of units that have every right to that much abused word "professional."



Studio 96 and RP120 amplifier at Bauer Audio-Video of Dallas, recording narration, music and sound effects for film strips — keying for automatic slide projection ...

HEAD CONFIGURATIONS

The Studio 96 accepts up to four heads in various configurations. Heads are metal faced with laminated cores, of hyperbolic contour and require no pressure pads. The tape is in contact with the heads only in "play" or "cue" mode. To prolong the life of heads and to avoid head wear tape lifters remove the tape from the heads during fast forward or rewind modes.

Only the FTRM, RM, ESM and RMQ low impedance head configurations shown below match the RP 110-R2 and RP 120-R2 solid state amplifiers.

HEAD CONFIGURATION		TAPE MOTION →				PRICES OF STUDIO 96
HEAD POSITIONS:		PHOTO-CELL	4	3	2	
96FTRM	Full Track Erase, Record, Play or Monitor					624.95
96RM	Half track mono Erase, Record, Play or Monitor					585.45
96ESM	Half track stereo Erase, Record, Play or Monitor					605.45
96RMQ	Quarter track stereo Erase, Record, Play or Monitor					598.95

While the low impedance configurations shown above are considered standard the Studio 96 may be ordered with any desired selection of heads (up to four head positions) in either high impedance for vacuum tube electronics or low impedance for solid state electronics. Additional suggested configurations are shown at right (not compatible with RP110-R2 or RP120-R2 amplifiers). When so purchased, the overall price is the accumulative total of the Studio 96 transport plus the cost of the selected heads. Viking equipment is sold only with heads.

ORDERING INFORMATION

To avoid delays when ordering equipment please specify accurately.

- (1) Head configuration and impedance.
- (2) Tape speeds.
- (3) Required power voltage and cycles.
- (4) All desired options and accessories for RP110-R2 or RP120-R2 amplifiers.
- (5) When ordering portable case only, specify optional screen filler panel sizes.

PRICES OF OPTIONS AND ACCESSORIES

Optional 117 volt 50 cycle operation — specify with order No Extra Cost

Optional 230 volt 50 cycle operation, step-down transformer included . Add \$18.50

Portable case # 100 (screen filler panels included

when ordered with equipment) Price \$59.50

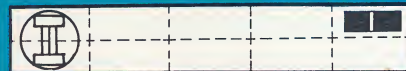
On orders without equipment, filler panels extra Add \$3.00

SUGGESTED CONFIGURATIONS

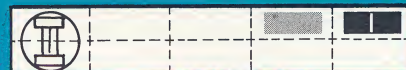
96 FTR Full Track Erase, Record/Play \$589.95



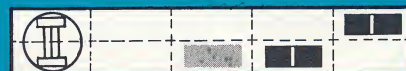
96 P Half Track Mono Play \$557.45



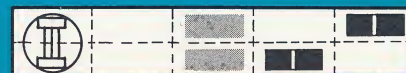
96 R Half Track Mono Erase,
Record/Play..... \$565.95



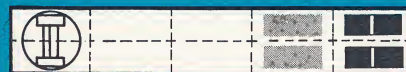
96 BE Half Track Erase, Record/Play Track Two,
Play Track One..... \$585.45



96 EB Half Track Two Channel Erase,
Record/Play..... \$589.95



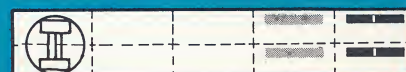
96 ES Half Track Stereo Erase,
Record/Play..... \$577.95



96 Q Quarter Track Stereo Play..... \$563.95



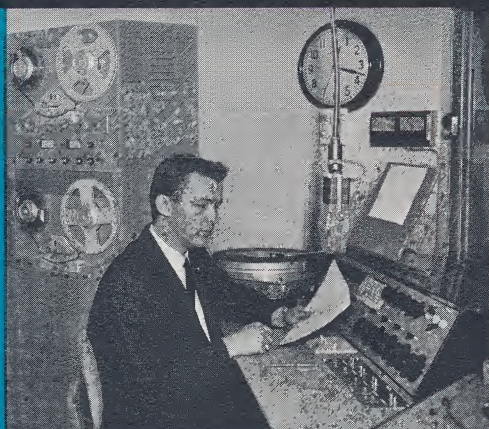
96 HQ Quarter Track Stereo Erase,
Record/Play..... \$576.95



96 EQQ Four Channel - Staggered Quarter
Track - Erase, Record/Play \$612.95



96 QQR Four Channel Simultaneous
Erase, Record, Play-Or-Monitor..... \$765.95



WAYL — Minneapolis, moved to new quarters, boasting 50,000 watt power, 400' tower, new Studio 96 tape transports and RP 120 amplifiers for multiplex broadcasts.

SOLID STATE MODULAR

Two amplifiers, monaural RP110-R2 and stereo RP120-R2 match the Studio 96 FTRM, RM, ESM and RMQ configurations. These new Viking tape recording and playback amplifiers are completely transistorized and incorporate the latest modular design concepts. RP110-R2 and RP120-R2 are electrically interlocked with the Studio 96. Either amplifier exceeds NAB standards and records and plays tapes of highest professional quality.

Solid state circuitry on etched, glass epoxy plug-in boards provide an exceptionally clean amplifier layout. Two inputs (per channel) for line and microphone are provided on the rear panel with readily interchangeable accessory plug-in modules and separate controls for mixing. Other features include two speed equalization switch, "A-B" monitor switch, head phone jack, illuminated ASA standard precision VU meters and illuminated record pushbuttons. Connecting cables for Studio 96 are included.

AMPLIFIER SPECIFICATIONS

FREQUENCY RESPONSE:*

30-16,000 CPS \pm 2DB at 7-1/2 IPS.
30-10,000 CPS \pm 2DB at 3-3/4 IPS.

SIGNAL-TO-NOISE RATIO:

55DB or better below peak recording level at 7-1/2 IPS.

OUTPUTS:*

Balanced +4 VU into 600 ohm load. Connectors; type XL-3 male (EIA standard).
Head Phone Jack - 600 ohm nominal.

INPUTS:*

- 1) High level: Unbalanced bridging, 150 K ohm impedance, 100 MV sensitivity.
2) Low level: High impedance unbalanced microphone, 200 K ohm 1MV sensitivity.

Connectors; type XL-3 female (EIA standard).

DISTORTION:

1% total harmonic distortion, record/play at 1,000 CPS at 7-1/2 IPS at 0 VU.

EQUALIZATION:*

NAB and EIA standard.

RECORD INTERLOCK:

Relay controlled.

BIAS/ERASE OSCILLATOR:

100 KC High-Q Low distortion push-pull solid state circuit. Adjustment at rear panel.

CONTROLS:

Separate controls for Play, both inputs (per channel), equalization, Record level, Monitor, Sound-on-sound on RP120 only.

INTERNAL TRIMMING ADJUSTMENTS:

Play equalization; record level; bias trap.

HEADS:*

Supplied adjusted for half track optimum heads.

CIRCUITRY:

Completely solid state.

POWER:*

110-120V AC 50/60 cycle; 20 watts maximum. Fuse - 0.5A, slow blow line fuse; Receptacle - switched AC for transport; Cord - supplied with 6 ft. removable AC cord.

DIMENSIONS:

Standard EIA rack mount panel. Height 5-1/4"; Width 19"; Depth 8" behind panel (allow 3" additional for connectors). 3/4" in front of panel.

PANEL FINISH:

Hammertone Grey

WEIGHT: 16 lbs. net. 20 lbs. in shipping carton.

OPTIONS AND ACCESSORIES

EQUALIZATION:

Option # E1 - Factory adjusted for 1-7/8 and 3-3/4 IPS.

Option # E2 - Factory adjusted for 7-1/2 and 15 IPS.

OUTPUT LINE:

Option # L1 - Factory set, 150 to 250 ohm balanced line output, +4 VU nominal.

HEAD ADJUSTMENT:

Option # H1 - Factory adjusted for full track optimum heads on RP110-R2 only.

Option # H2 - Factory adjusted for quarter track stereo optimum heads on RP120-R2 only.

POWER:

Option # V2 - 220 to 240 V AC 50/60 cycle.

PLUG-IN INPUT MODULES:

Each input (2 per channel) accepts any one of the plug-in accessories.

Accessory # P1 - (One per channel supplied on standard amplifiers). Unbalanced bridging 150 K ohm, 100 MV sensitivity.

Accessory # P2 - Balanced bridging 10 K ohm, transformer isolated for 150 to 600 ohm lines - 20 DBM to + 10 DBM.

Accessory # P3 - (One per channel supplied on standard amplifiers). High impedance unbalanced microphone, 200 K ohm 1 MV sensitivity.

Accessory # P4 - Low impedance balanced microphone, 50 to 250 ohm, -70 to -30 DBM.

Special interconnection for synchronizing the bias oscillators in two amplifiers for multiple channel operations is optional.

ORDERING INFORMATION AND PRICES

Please read all specifications carefully. If any options or accessories are required specify these clearly when ordering.

STANDARD RP 110 - R2 Price \$299.00

STANDARD RP 120 - R2 Price \$399.00

If other than standard, specify with order:

EQUALIZATION #E1 or #E2; OUTPUT LINE #L1;

HEAD ADJUSTMENT #H1 or #H2; POWER #V2. NO EXTRA COST

ACCESSORY PLUG-IN INPUT MODULES #P1

#P2 ADD \$ 2.00 PER INPUT

#P3 ADD \$23.50 PER INPUT

#P4 ADD \$16.00 PER INPUT

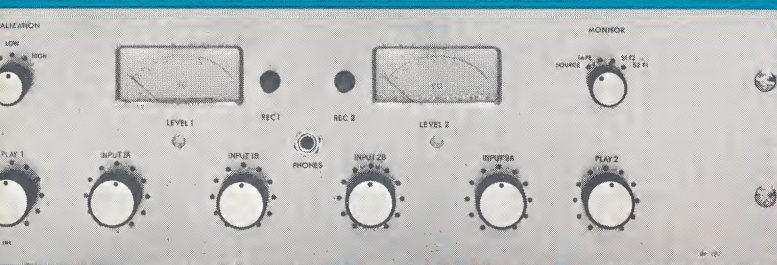
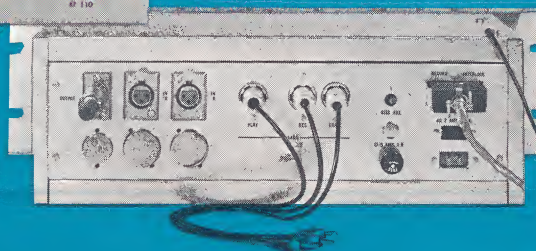
#P4 ADD \$30.00 PER INPUT

Factory synchronized bias oscillator connections in two amplifiers Price \$10.00

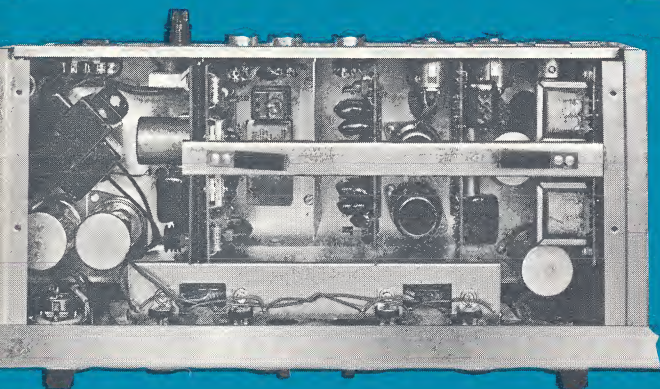
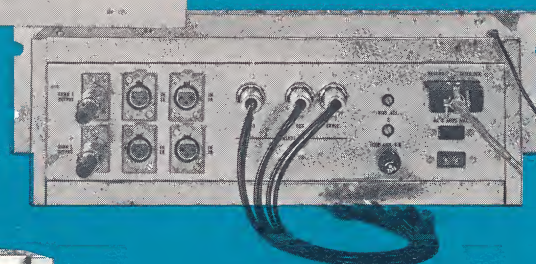
ELECTRONICS FOR STUDIO 96



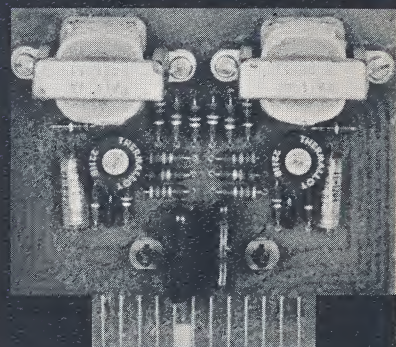
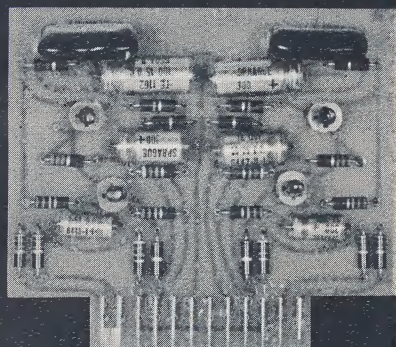
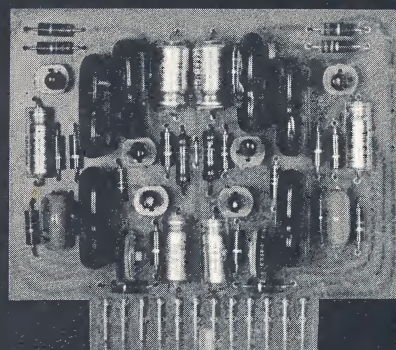
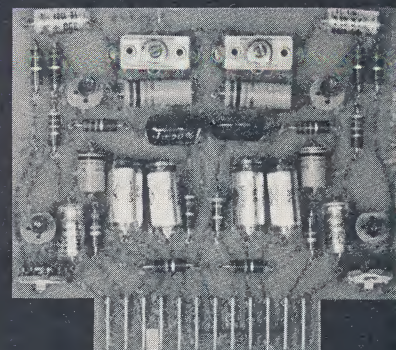
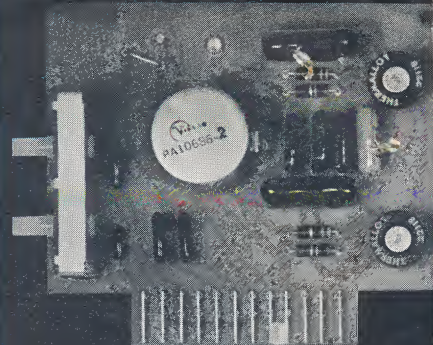
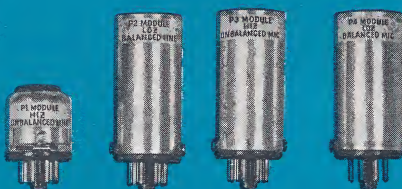
MONAURAL RP 110-R2 - FRONT AND REAR VIEW



STEREO RP 120-R2 - FRONT, REAR AND TOP VIEW



INPUT MODULES



Viking reserves the right to improve its products without incurring the obligation to incorporate these improvements in products already sold. Specifications and prices listed herein are subject to change without notice.



Viking OF MINNEAPOLIS

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Printed in U.S.A. 12-65

* * * N O T I C E * * *

Due to the improved design of the Studio 96, 15 ips tape speed is now available for all 60 and 50 cycle operations. Please specify clearly, tape speeds and power requirements when ordering equipment.

For 50 cycle operation in high ambient temperatures, or where normal ventilation is restricted, an additional cooling fan is recommended - available at extra cost.

VIKING OF MINNEAPOLIS, INC.
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